WHAT IS CLAIMED IS:

1. A semiconductor device comprising a package film including:

a device-mounting film portion on which a semiconductor chip is mounted;

an external-connection film portion arranged on said device-mounting film portion and having an external electrode pad formed thereon;

a bending portion provided between an end portion of said device-mounting film portion and an end portion of said external-connection film portion; and

an inner lead for electrically connecting an electrode pad of said semiconductor chip and said external electrode pad via said bending portion.

2. A semiconductor device according to claim 1, further comprising:

a flat plate provided between said device-mounting film portion and said external-connection film portion.

3. A semiconductor device according to claim 2, wherein said external-connection film portion has a through hole, said flat plate is electrically conductive, an inner lead for a reference power supply leading from an electrode pad for the reference power supply of said semiconductor chip is formed on said package film via said bending portion, and an electrically conductive material is embedded in the through

hole to electrically connect said inner lead for the reference power supply and said electrically conductive flat plate.

4. A semiconductor device according to claim 1, further comprising:

a substantially U-shaped plate including a bottom plate portion and a top plate portion,

wherein said device-mounting film portion is attached to an inner surface of said bottom plate portion of said substantially U-shaped plate, and said external-connection film portion is attached to an outer surface of said top plate portion.

5. A semiconductor device comprising a package film including:

a device-mounting film portion on which a semiconductor chip is mounted such that said device-mounting film portion faces an obverse surface of said semiconductor chip;

an external-connection film portion arranged on a reverse surface of said semiconductor chip and having an external electrode pad formed thereon;

a bending portion provided between an end portion of said device-mounting film portion and an end portion of said external-connection film portion; and

an inner lead for electrically connecting an electrode pad of said semiconductor chip and said external electrode pad via said bending portion.

6. A semiconductor device comprising a package film on which a semiconductor chip having an electrode pad arranged in a region along a central portion of said chip or a center line of said chip is mounted,

wherein said package film includes:

a device hole formed in a region along a central portion thereof or a center line thereof in correspondence with the region where said electrode pad of said semiconductor chip is formed;

an external electrode pad formed in a region other than the region where the device hole is formed; and

an inner lead connecting said electrode pad of said semiconductor chip and said external electrode pad.

7. A semiconductor device comprising a package film on which a semiconductor chip having an electrode pad arranged in a peripheral portion of said chip is mounted,

wherein said package film includes:

a device hole formed in a peripheral portion thereof in correspondence with the region where said electrode pad of said semiconductor chip is formed;

an external electrode pad formed in a region other than the region where the device hole is formed; and

an inner lead connecting said electrode pad of said semiconductor chip and said external electrode pad,

wherein a space between said package film and a surface of said semiconductor chip is fixed by an encapsulating resin.

8. A semiconductor device according to claim 1, 6, or 7, wherein a protective frame is provided in such a manner as to cover side surfaces or side surfaces and a reverse surface of said semiconductor chip.

9. A semiconductor device comprising a package film including:

a device-mounting film portion on which a semiconductor chip having an electrode pad arranged in a predetermined region is mounted such that said device-mounting film portion faces an obverse surface of said semiconductor chip;

an external-connection film portion arranged on a reverse surface of said semiconductor chip and having an external electrode pad formed thereon;

a bending portion provided between an end portion of said device-mounting film portion and an end portion of said external-connection film portion; and

an inner lead,

wherein said device-mounting film portion has a device hole formed in a predetermined region in correspondence with a region where an electrode pad of said semiconductor chip

is formed and an external electrode pad formed in a region other than the region where the device hole is formed, and said inner lead electrically connects said electrode pad of said semiconductor chip and said external electrode pad of said device-mounting film portion, and electrically connects said electrode pad of said semiconductor chip and said external-connection film portion via said bending portion.

10. A semiconductor device according to claim 9, wherein said external-connection film portion has said external electrode pad formed at a position corresponding to an external-electrode-pad forming position on said device-mounting film portion.

11. A semiconductor device wherein a plurality of semiconductor devices according to claim 10 are laminated, said semiconductor devices being superposed such that said external electrode pad of some film portion of a first semiconductor device is superposed on said external electrode pad of some film portion of a second semiconductor device such that said superposed external electrode pads are electrically connected to each other.

12. A semiconductor device according to claim 10, wherein a solder ball is deposited on one of said external electrode pad formed on said external-connection film portion and said external electrode pad formed on said device-mounting film portion.

13. A semiconductor device according to claim 6, 7, or 9, wherein said package film has insulating resin projections formed on its surface where said semiconductor chip is mounted.

14. A semiconductor device according to claim 1, 5, or 9, wherein said package film has a plurality of bending portions, and has a plurality of said external-connection film portions, in such a manner as to respectively correspond to said plurality of bending portions.

15. A semiconductor device according to claim 14, wherein said package film has two bending portions and two external-connection film portions, in such a manner as to respectively correspond to two opposing sides of said semiconductor chip.

16. A semiconductor device according to claim 14, wherein said package film has four bending portions and four external-connection film portions, in such a manner as to respectively correspond to four sides of said semiconductor chip.

17. A semiconductor device according to claim 1, 5, 6, 7, or 9, wherein said bending portion has a structure in which said inner lead is coated with an elastic resin.

18. A semiconductor device according to claim 1, 5, 6, 7, or 9, wherein said inner lead is bonded directly to said electrode pad of said semiconductor chip.

19. A semiconductor device according to claim 18, wherein said inner lead is formed by subjecting a gold-plated copper foil to annealing.

20. A semiconductor device according to claim 1, 5, 6, 7, or 9, wherein a solder ball is deposited on said external electrode pad.

21. A method for manufacturing a semiconductor device, comprising the steps of:

preparing a package film having a planar configuration whose region is divided into a device-mounting film portion having a device hole forming therein, an external-connection film portion, and a bent portion located between said device-mounting film portion and said external-connection film portion, an external electrode pad being formed on said external-connection film portion on a first surface side of said package film, an inner lead being formed in such a manner as to lead from the device hole to said external electrode pad via said bending portion;

mounting a semiconductor chip on said device-mounting film portion on said first surface side by bonding said inner lead to an electrode pad of said semiconductor chip in a region where the device hole is formed; and

bending said external-connection film portion at said bending portion 180° toward a second surface side of said package film and fixing the same.

22. A method for manufacturing a semiconductor device according to claim 21, wherein the step of mounting said semiconductor chip is effected such that after said inner lead is bonded to said electrode pad of said semiconductor chip, an encapsulating resin is allowed to flow into a space between said device-mounting film portion and an obverse surface of said semiconductor chip so as to fix said semiconductor chip on said device-mounting film portion.

23. A method for manufacturing a semiconductor device according to claim 21, wherein said package film has a plurality of bending portions and has a plurality of said external-connection film portions, in such a manner as to respectively correspond to said plurality of bending portions, and the step of fixing said external-connection film portion is effected by respectively bending said plurality of external-connection film portions at corresponding said bending portions 180° toward said second surface side and by fixing the same.

24. A method for manufacturing a semiconductor device according to claim 23, wherein the step of fixing said external-connection film portion is effected by allowing an encapsulating resin to flow from a gap at each of said plurality of external-connection film portions bent into a space between each of said external-connection film portions and said device-mounting film portion and a space between

said device-mounting film portion and the obverse surface of said semiconductor chip, for fixing said semiconductor chip on said device-mounting film portion and fixing said external-connection film portions to said device-mounting film portion.

25. A method for manufacturing a semiconductor device according to claim 23, wherein said package film has two bending portions and two external-connection film portions, in such a manner as to respectively correspond to two opposing sides of said semiconductor chip, and the step of fixing said external-connection film portion is effected by respectively bending said two external-connection film portions at corresponding said bending portions 180° toward said second surface side and by fixing the same.

26. A method for manufacturing a semiconductor device according to claim 23, wherein said package film has four bending portions and four external-connection film portions, in such a manner as to respectively correspond to four sides of said semiconductor chip, and the step of fixing said external-connection film portion is effected by respectively bending said four external-connection film portions at corresponding said bending portions 180° toward said second surface side and by fixing the same.

27. A method for manufacturing a semiconductor device, comprising the steps of:

preparing a package film having a planar configuration whose region is divided into a device-mounting film portion having a device hole forming therein, an external-connection film portion, and a bent portion located between said device-mounting film portion and said external-connection film portion, an external electrode pad being formed on said external-connection film portion on a first surface side of said package film, an inner lead being formed in such a manner as to lead from the device hole to said external electrode pad via said bending portion;

mounting a semiconductor chip on said device-mounting film portion on a second surface side of said package film by bonding said inner lead to an electrode pad on an obverse surface of said semiconductor chip in a region where the device hole is formed; and

bending said external-connection film portion at said bending portion 180° toward a reverse surface side of said semiconductor chip and fixing the same to said reverse surface.

28. A method for manufacturing a semiconductor device, comprising the steps of:

preparing a semiconductor chip having an electrode pad arranged in a region along a central portion of said chip or a center line of said chip, as well as a package film having a device hole formed in a region along a central portion

thereof or a center line thereof in correspondence with the region where said electrode pad of said semiconductor chip is formed, an external electrode pad being formed on an external connection surface side of said package film in a region other than the region where the device hole is formed, an inner lead being formed in such a manner as to lead from the device hole to said external electrode; and

mounting said semiconductor chip on a device mounting surface side of said package film by bonding said inner lead to said electrode pad of said semiconductor chip in the region where the device hole is formed.

29. A method for manufacturing a semiconductor device, comprising the steps of:

preparing a semiconductor chip having an electrode pad arranged in a peripheral portion of said chip, as well as a package film having a device hole formed in a peripheral portion thereof in correspondence with the region where said electrode pad of said semiconductor chip is formed, an external electrode pad being formed on an external connection surface side of said package film in a region other than the region where the device hole is formed, an inner lead being formed in such a manner as to lead from the device hole to said external electrode; and

mounting said semiconductor chip on a device mounting surface side of said package film by bonding said inner lead

to said electrode pad of said semiconductor chip in the region where the device hole is formed, and by allowing an encapsulating resin to flow into a space between said package film and an obverse surface of said semiconductor chip.

30. A method for manufacturing a semiconductor device according to claim 28 or 29, wherein said package film has insulating resin projections formed on its surface where said semiconductor chip is mounted, and the step of mounting said semiconductor chip is effected such that after said inner lead is bonded, an encapsulating resin is allowed to flow into a space between said package film and said semiconductor chip so as to fix said semiconductor chip on said package film.

31. A method for manufacturing a semiconductor device, comprising the steps of:

preparing a semiconductor chip having electrode pads arranged in a predetermined region thereof, as well as a package film having a planar configuration whose region is divided into a device-mounting film portion having a device hole forming in a determined region thereof, an external-connection film portion, and a bent portion located between said device-mounting film portion and said external-connection film portion, external electrode pads being formed on said external-connection film portion on a first

surface side of said package film and in a region other than the region where the device hole is formed in said device-mounting film portion on said first surface side, inner leads being formed in such a manner as to lead from the device hole to respective said external electrode pads;

mounting said semiconductor chip on said device-mounting film portion on a second surface side of said package film by bonding said inner leads to said electrode pads on an obverse surface of said semiconductor chip in a region where the device hole is formed; and

bending said external-connection film portion at said bending portion 180° toward a reverse surface side of said semiconductor chip and fixing the same to said reverse surface.

32. A method for manufacturing a semiconductor device according to claim 31, wherein said device-mounting film portion has insulating resin projections formed on said second surface side, and the step of mounting said semiconductor chip is effected such that after said inner leads are bonded, an encapsulating resin is allowed to flow into a space between said device-mounting film portion and said semiconductor chip so as to fix said semiconductor chip on said second surface of said device-mounting film portion.

33. A method for manufacturing a semiconductor device according to claim 31, wherein said external-connection film

portion has said external electrode pads formed at positions corresponding to an external-electrode-pad forming position on said device-mounting film portion, said method of manufacturing a semiconductor device further comprising the steps of:

preparing a plurality of semiconductor devices for each of which the step of fixing said external-connection film portion has been completed; and

laminating said plurality of semiconductor devices by superposing said external electrode pads of some film portion of a first semiconductor device on said external electrode pads of some film portion of a second semiconductor device such that said superposed external electrode pads being electrically connected to each other.

34. A method for manufacturing a semiconductor device according to claim 33, wherein, in the step of laminating said plurality of semiconductor devices, solder balls are selectively deposited on said external electrode pads of said semiconductor devices for which the step of fixing said external-connection film portion has been completed such that selected ones of said superposed external electrode pads have said solder balls, and said solder balls are melted, thereby electrically connecting said superposed external electrode pads.

35. A method for manufacturing a semiconductor device according to claim 27 or 31, wherein said package film has a plurality of bending portions and has a plurality of said external-connection film portions, in such a manner as to respectively correspond to said plurality of bending portions, and the step of fixing said external-connection film portion is effected by respectively bending said plurality of external-connection film portions at corresponding said bending portions 180° toward said reverse surface side of said semiconductor chip and by fixing the same to said reverse surface.

36. A method for manufacturing a semiconductor device according to claim 35, wherein said package film has two bending portions and two external-connection film portions, in such a manner as to respectively correspond to two opposing sides of said semiconductor chip, and the step of fixing said external-connection film portion is effected by respectively bending said two external-connection film portions at corresponding said bending portions 180° toward said reverse surface side of said semiconductor chip and by fixing the same to said reverse surface.

37. A method for manufacturing a semiconductor device according to claim 35, wherein said package film has four bending portions and four external-connection film portions, in such a manner as to respectively correspond to four sides

of said semiconductor chip, and the step of fixing said external-connection film portion is effected by respectively bending said four external-connection film portions at corresponding said bending portions 180° toward said second surface side and by fixing the same.

38. A method for manufacturing a semiconductor device according to claim 21, 27, or 31, further comprising the steps of:

preparing a base resin which has a planar configuration and whose region is divided into a predetermined region for a device-mounting film portion, a predetermined region for a bending portion, and a predetermined region for a external-connection film portion; and

fabricating said package film by forming said device hole in said predetermined region for said device-mounting film portion of said base resin, by forming said bending hole in said predetermined region for said bending portion, by patterning on said base resin said inner lead leading from said device hole to said predetermined region for said external-connection film portion via said bending hole, and by forming said external electrode pad in said predetermined region for said external-connection film portion.

39. A method for manufacturing a semiconductor device according to claim 38, wherein, in the step of fabricating said package film, said external electrode pad is formed by

coating said base resin with said inner lead patterned thereon with an insulating resin, and by forming holes in said insulating resin.

40. A method for manufacturing a semiconductor device according to claim 38, wherein, in the step of fabricating said package film, said external electrode pad is formed by patterning said inner lead leading to a hole for said external electrode pad on said base resin in which a hole for said external electrode pad has been formed.

41. A method for manufacturing a semiconductor device according to claim 21, 27, 28, 29 or 31, wherein, in the step of mounting said semiconductor chip, said inner leads are collectively bonded to said electrode pads of said semiconductor chip.

42. A method for manufacturing a semiconductor device according to claim 21, 27, 28, 29 or 31, wherein, in the step of mounting said semiconductor chip, said inner leads are bonded directly to said electrode pads of said semiconductor chip.

43. A method for mounting a semiconductor device according to any one of claims 1 to 19 on a mother board in close contact therewith, comprising the steps of:

depositing solder balls on electrode pads of said mother board; and

placing said semiconductor device on said mother board and melting said solder balls so as to electrically connect said electrode pads of said mother board and said external electrode pads of said semiconductor device.

44. A method for mounting a semiconductor device in which a plurality of superposed semiconductor devices according to claim 9 are mounted on a mother board, comprising the step of:

causing said external electrode pads formed on one of said external-connection film portion and said device-mounting film portion of a first semiconductor device to be superposed on said electrode pads of said mother board, and causing said external electrode pads formed on one of said external-connection film portion and said device-mounting film portion of a second semiconductor device to be superposed on said external electrode pads formed on another film portion of said first semiconductor device, so as to electrically connect said superposed electrodes.

45. A method for mounting a semiconductor device according to claim 44, wherein said solder balls are deposited in advance between said superposed electrodes, and said solder balls are melted, so as to electrically connect said superposed electrodes.